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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/840,042

05/06/2004

Mark Edwin Forry

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THE PROCTER & GAMBLE COMPANY
Global Legal Department - IP
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EXAMINER

CORDRAY, DENNIS R

ART UNIT

PAPER NUMBER

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DELIVERY MODE

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/840,042	Applicant(s) FORRY ET AL.	
	Examiner DENNIS CORDRAY	Art Unit 1791	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 27 January 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,5 and 7-15 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,5 and 7-15 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Arguments

Applicant's amendments filed 1/27/2009 have failed to overcome the rejections of Claims over the cited prior art. However, the rejections have been amended to address the amendments to the claims.

Applicant's arguments have been fully considered but they are not persuasive. Applicant argues that Chen et al ('388) discloses printing the adhesive onto the web in a predetermined pattern. Note that the intended scope of the term random is not defined in the instant Specification. As discussed in the rejection, the nature of the fiber deposition process inherently results in a random pattern of fibers and a random pattern of adhesive applied to the fibers. Alternatively, the disclosure of Chen et al ('388) shows random patterns of printed adhesive. See, for instance, Figures 9 and 10, which show a height map of a putty impression of a printed web. In the Figures, the darker regions correspond to the high points of the adhesive material, while the lighter regions correspond to the lower regions (p 19, pars 185-189). The image and the depth profile both show the random pattern on the surface.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

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(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 5, 7-9 and 11-15 are rejected under 35 U.S.C. 102(e) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Chen et al (US 2004/0099388) as evidenced by Swoboda et al (6740373).

Claim 1: Chen et al ('388) discloses tissue products in roll form (Abs; p 1, par 1; p 2, par 23; p 4, par 39; p 6, par 74; p 18, par 175) comprising a wet laid or air laid fibrous structure (p 8, pars 85 and 87; p 17, par 170) having a patterned three dimensional configuration of raised web portions molded into the web and projecting out of the surface (p 2, pars 16, 20 and 23). The web inherently has at least first and second surfaces or, at least, such surfaces would have been obvious to one of ordinary skill in the art.

The molded portions can be made by embossing in a desired design, which is controlled by the pattern on the embossing member (p 6, par 67; p 9, par 97). Alternatively, the web can be embossed separately from the molding process (p 6, par 68; p 17, par 170; p 18, pars 177 and 178) in a desired design

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controlled by the pattern on the embossing member or, at least, providing a desired design would have been obvious to one of ordinary skill in the art.

In some embodiments, the raised portions have a height above the planar surface of the web of about 1 mm, or 1000 μm , which reads on values greater than 1000 μm (p 9, par 96). The web comprises an adhesive material, applied to the web before, during or after the web is molded, and covering up to about 100% of the area of the surface of the web (p 16, par 162). Due to the random deposition of fibers from the web forming process, the adhesive is inherently present in a random pattern on the fibers or, at least, a random pattern would have been obvious to one of ordinary skill in the art. Examples of the disclosed molded pattern (Fig 5) reveal patterns that are not nesting, thus the average sheet caliper of the molded product is greater than that of an unmolded product.

Chen et al does not disclose the glass transition temperature (T_g) of the latex binder. The disclosed species are substantially the same as commercially available conventional latexes that have T_g 's in the claimed range (see Swoboda et al, 6740373, col 27, Table 5), thus will have a T_g in the claimed range or, at least, it would have been obvious to one of ordinary skill in the art to obtain the claimed T_g .

Claims 5 and 7: Chen et al ('388) discloses that the adhesive can be a latex, such as vinyl acetate copolymers, ethylene-vinyl acetate, styrene-butadiene, acrylic emulsions (p 13, par 140).

Claims 8 and 9: In some embodiments (Figs 7A and 7B), the molded pattern comprises raised areas of low relative density and compressed areas of

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high relative density. In other embodiments (Fig 4), the molded pattern does not result in raised areas of lower density than compressed areas, but raised and lowered areas of similar thickness (and density) or, at least, a substantially uniform density would have been obvious to one of ordinary skill in the art. Alternatively, given the repeating molded pattern, the density of a random area of the tissue on a gross scale covering multiple repeating pattern areas compared with another random area of the tissue on a gross scale covering multiple repeating pattern areas shows substantial uniformity or, at least, substantial uniformity would have been obvious to one of ordinary skill in the art.

Claim 11: Figure 4 shows an embodiment where both sides of the web are molded to approximately the same deformation height.

Claim 14: Chen et al ('388) discloses products having a caliper of 0.027 to 0.30 in., or 27 to 30 mils (Figure 15).

Claims 12, 13 and 15: The structure of the sheet of Chen et al ('388) is substantially the same as the claimed structure, thus will have the claimed properties because, where the claimed and prior art apparatus or product are identical or substantially identical in structure or composition, a *prima facie* case of either anticipation or obviousness has been established. *In re Best*, 562 F.2d 1252, 1255, 195 USPQ 430, 433 (CCPA 1977). In other words, when the structure recited in the reference is substantially identical to that of the claims, the claimed properties or functions are presumed to be inherent.

Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Chen et al ('388) in view of Klowak et al (4507173).

Chen et al ('388) does not disclose that the latex is substantially present in the high density regions of the fibrous structure.

Klowak et al discloses a fibrous tissue structure comprising a patterned web comprising a molded pattern of compressed areas and raised areas and a binding material applied to the surface thereof (Abs; col 1, line 61 to col 2, line 6; Fig. 5). The pressure applied by the raised surfaces of the impression roller of the molding apparatus causes the binding liquid to be dispersed deeply into the compressed areas (areas of higher density) and highly concentrated therein to provide strength, while the uncompressed areas receive a light coating that provides resistance to linting, a soft bulky feel and excellent absorbency (col 2, lines 6-33).

The art of Chen et al ('388), Klowak et al and the instant invention is analogous as pertaining to tissue products comprising three dimensional molded patterns. It would have been obvious to one of ordinary skill in the art to concentrate the binder to be substantially present in the compressed areas of higher density and more lightly present in the raised areas of the product of Chen et al ('388) in view of Klowak et al to provide strength in the compressed areas while providing resistance to linting, a soft bulky feel and excellent absorbency to the raised areas.

Claims 1, 5, 7-9 and 12-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schmidt et al (6893525) in view of Goulet et al (US 2005/0045294) and as evidenced by Swoboda et al.

Claims 1, 5 and 7: Schmidt et al discloses an embossed (patterned in a desired design) airlaid absorbent sheet product (a tissue product or fibrous structure) comprising an embossed a pattern having a depth up to about 0.125 inch (about 3.2 mm or 3200 microns) and a latex polymer emulsion binder sprayed onto one surface or both surfaces of the web (Abs, col 4, lines 10-20 and 58-67; col 6, lines 23-30; col 7, lines 44-58).

Schmidt et al does not disclose a wet laid structure. Schmidt et al also does not disclose the Tg of the latex, the claimed latex species or that the binder is applied in a random pattern to about 100% of the surface area. Schmidt et al does not disclose a product in roll form. The caliper of the sheets is not disclosed.

One of ordinary skill in the art would have known that the purpose of the binder is to bond the sheet together and provide strength thereto and would have found it obvious to apply the binder to about 100% of the surface area of at least one surface of the sheet to bond the entire sheet together and increase its strength.

Alternatively, Goulet et al discloses absorbent paper sheets having a topically applied latex containing binder composition covering from about 5 to about 90% of the surface area of at least one surface of the sheet. The binder composition is cured (Abs; p 1, pars 8, 9, 11; p 2, par 12; p 3, pars 19, 20).

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Goulet et al teaches that the cured binder composition bonds the sheet together and imparts wet strength to the sheet (Abs; p 1, par 8). Goulet et al further teaches that the particular binder composition used can be cured at low temperatures (p 3, par 20). The web is wound onto a roll after drying for subsequent conversion to a final product (p 6, par 52). The sheets can be made by a wet laid or a dry laid process (p 5, par 43).

Schmidt et al does not disclose the nature of the latex binder. Goulet et al discloses a carboxyl functional ethylene-vinyl acetate latex terpolymer emulsion. A specific commercially available example, Airflex® 426 is disclosed (pp 1-2, pars 11 and 12). Airflex® 426 has a Tg of 0°C (if evidence is needed, see Swoboda et al, 6740373, col 27, Table 5). Several other commercially available conventional latexes have glass transition temperatures (Tg) in the claimed range (Swoboda et al, Table 5).

The art of Schmidt et al, Goulet et al, and the instant invention is analogous as pertaining to tissue paper comprising a latex binder. It would have been obvious to one of ordinary skill in the art to use a natural or synthetic latex having the claimed composition and Tg as commercially available materials. The surface coverage area of Goulet et al of about 90%, which includes values somewhat above 90%, is considered by the Examiner to overlay the claimed surface coverage area of about 100%, which includes values somewhat below 100%. There being no explicit definition in the instant Specification of what is meant by about 100%, it would have been obvious to one of ordinary skill in the art to obtain the claimed surface coverage of the binder composition in the

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process of Schmidt et al in view of Goulet et al to bond the tissue and to provide wet strength. Due to the random deposition of fibers from the web forming process, the adhesive is present in a random pattern or, at least, a random pattern would have been obvious to one of ordinary skill in the art.

Making the tissue sheets by wet laid process would have been obvious as a functionally equivalent process well known in the art. It would also have been obvious at the time of the invention to wind the tissue onto a parent roll (product in roll form) as a typical process prior to conversion to final products.

Alternatively, it is generally known to those of ordinary skill in the art to provide tissue products in roll form (e.g.-tissue paper rolls or paper towel rolls), thus providing a final product in roll form would have been obvious. It would further have been obvious that the wave patterns cannot nest and that the average effective caliper of the embossed structure in roll form is greater than that of a similar unembossed structure.

Claims 8 and 9: The molded pattern of Schmidt et al locally comprises compressed areas (col 4, lines 13-17), which inherently have a higher relative density as compared to non-compressed areas. On a larger scale, given the repeating molded pattern, one of ordinary skill in the art would have found it obvious to obtain substantial uniformity in the density of a random area of the tissue covering multiple repeating pattern areas as compared with another random area of the tissue covering multiple repeating pattern areas.

Claim 14: The patterned sheet has a caliper of at least 0.125 in., or 125 mils.

Claims 12, 13 and 15: Schmidt et al and Goulet et al do not disclose the absorbency, stretch and burst strength of the fibrous structures.

The claimed patterned structure comprising a latex applied to the surface has been shown to be obvious over Schmidt et al in view of Goulet et al, thus it would have been obvious to one of ordinary skill in the art to obtain the claimed properties for reasons previously given.

Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Schmidt et al in view of Goulet et al and further in view of Klowak et al.

Schmidt et al and Goulet et al do not disclose that the latex is substantially present in the high density regions of the fibrous structure.

Klowak et al discloses a fibrous tissue structure comprising a patterned web comprising a molded pattern of compressed areas and raised areas and a binding material applied to the surface thereof (Abs; col 1, line 61 to col 2, line 6; Fig. 5). The pressure applied by the raised surfaces of the impression roller of the molding apparatus causes the binding liquid to be dispersed deeply into the compressed areas (areas of higher density) and highly concentrated therein to provide strength, while the uncompressed areas receive a light coating that provides resistance to linting, a soft bulky feel and excellent absorbency (col 2, lines 6-33).

The art of Schmidt et al, Goulet et al, Klowak et al and the instant invention is analogous as pertaining to tissue products comprising latex binders. It would have been obvious to one of ordinary skill in the art to concentrate the

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binder to be substantially present in the compressed areas of higher density and more lightly present in the raised areas of the product of over Schmidt et al in view of Goulet et al and further in view of Klowak et al to provide strength in the compressed areas while providing resistance to linting, a soft bulky feel and excellent absorbency to the raised areas.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to DENNIS CORDRAY whose telephone

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number is (571)272-8244. The examiner can normally be reached on M - F, 7:30 -4:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Steven Griffin can be reached on 571-272-1189. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Dennis Cordray/
Examiner, Art Unit 1791

/Eric Hug/
Primary Examiner, Art Unit 1791